Extron Electronics
INTERFACING, SWITCHING AND CONTROL

XTP T USW 103 • Setup Guide

The XTP T USW 103 is a three-input switcher for sending HDMI or RGBHV video, audio, control, and Ethernet up to 330 feet (100 m) over a single CATx cable. This guide provides instructions for an experienced installer to install and connect the Extron XTP T USW 103 Universal Switcher.
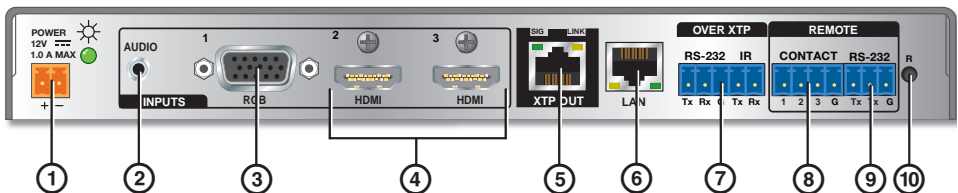
Power and Input Connections	Throughput Connections	Control Connections
① DC power connector and power LED	⑤ XTP output connector and Sig and Link LEDs	⑧ Contact closure connector
② Analog audio input connector	⑥ LAN connector and LEDs	⑨ RS-232 connector
③ Analog 15-pin HD connector	⑦ RS-232/IR Over XTP connector	⑩ Reset button
④ HDMI input connectors		

Installation

Step 1 — Mounting

Turn off or disconnect all equipment power sources and mount the switcher as required (see the *XTP T USW 103 User Guide* on the Extron website, **www.extron.com**, for mounting considerations).

Step 2 — Connecting Inputs

a. Connect an unbalanced analog audio input source to the 3.5 mm TRS jack (see ② above). All three video inputs can share this audio input. HDMI embedded audio is normally given priority.

b. Connect an analog RGB video source to the female 15-pin HD VGA connector, labeled input 1 (see ③ above).

c. Connect a digital video source to the female HDMI connectors, labeled inputs 2 and 3 (see ④ above). They can accept HDMI, DVI (with an appropriate adapter), or DisplayPort video signals.

> **NOTES:**
> - Use an Extron LockIt® Lacing Bracket to secure HDMI cables to the connectors (see the *XTP T USW 103 User Guide* for insturctions).
> - Video input from a DisplayPort source must be a dual mode DisplayPort source.

Step 3 — Connecting Throughput Devices

a. Connect a twisted pair cable between the XTP connector (see ⑤ above) of the XTP T USW 103 to an XTP receiver.

> **ATTENTION:** Do not connect this connector to a computer data or telecommunications network.

The XTP T USW 103 is compatible with CAT 5e, 6, 6a, and 7 shielded twisted pair (F/UTP, SF/UTP, and S/FTP) and unshielded twisted pair (U/UTP) cable. Extron recommends using the following practices to achieve full transmission distances up to 330 feet (100 m) and reduce transmission errors.

- Use Extron XTP DTP 24 SF/UTP cable for the best performance. If not using XTP DTP 24 cable, at a minimum, Extron recommends 23 AWG, solid conductor, STP cable with a minimum bandwidth of 400 MHz.
- Terminate cables with shielded connectors to the TIA/EIA-T568B standard.
- Limit the use of more than two pass-through points, which may include patch points, punch down connectors, couplers, and power injectors. If these pass-through points are required, use CAT 6 or 6a shielded couplers and punch down connectors.

Pins: 12345678
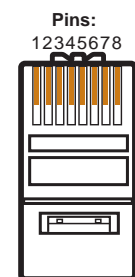
Insert Twisted Pair Wires

TIA/EIA-T568B	
Pin	**Wire Color**
1	White-orange
2	Orange
3	White-green
4	Blue
5	White-blue
6	Green
7	White-brown
8	Brown

> **NOTE:** When using CAT 5e or CAT 6 cable in bundles or conduits, consider the following:
> - Do not exceed 40% fill capacity in conduits.
> - Do not comb the cable for the first 20 m, where cables are straightened, aligned, and secured in tight bundles.
> - Loosely place cables and limit the use of tie wraps or hook and loop fastener.
> - Separate twisted pair cables from AC power cables.

Signal LED — Lights when the device is transmitting a video signal or a test pattern.

Link LED — Lights when a valid link between an XTP input and output is established.

b. To pass bidirectional serial, infrared, or other control signals, connect a control device or a device to be controlled to the RS-232 and IR Over XTP connector (see ⑦ on page 1).

> **NOTE:** RS-232 and IR data can be transmitted simultaneously.

c. Connect a host device or control LAN or WAN to the LAN RJ-45 connector for pass-through 10/100 Ethernet communication (see ⑥ on page 1). This is an Ethernet pass-through port with LEDs to indicate link and activity status.
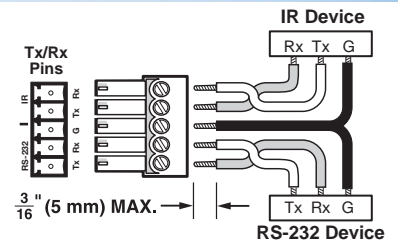
Step 4 — Connecting Control Devices

a. Connect a host device, such as a computer, to the female mini-USB B port on the front panel to configure the device or update firmware (see the image to the right).

b. Connect a suitable contact closure device to the 3.5 mm, 4-pole captive screw connector for remote input selection (see ⑧ on page 1). The ports labeled 1-3 select inputs 1-3 when momentarily shorted to the ground port (see the remote contact closure image to the right).

c. For serial RS-232 control, connect a host device or control system to the 3.5 mm, 3-pole captive screw connector (see ⑨ on page 1).
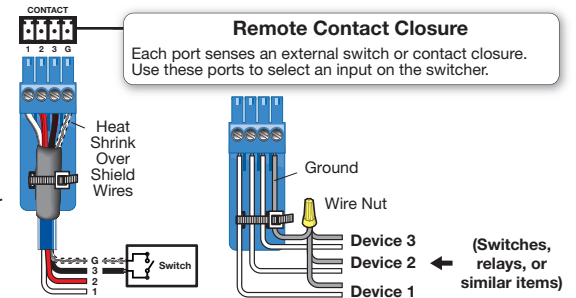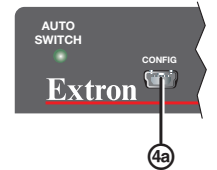
Step 5 — Connecting Power

Power the XTP T USW 103 in one of the following methods:

- Connect the provided external power supply to the 2-pole captive screw connector for local 12 V power (see ① on page 1).
- Connect an XTP Power Injector to the XTP connection between the XTP T USW 103 and a locally powered XTP receiver or XTP matrix switcher.
- Connect the XTP T USW 103 to an XTP matrix switcher and enable the remote power feature on the XTP matrix switcher.

Operation

Input Selection Buttons

The three buttons with corresponding LEDs on the front panel (labeled Mode or 1, Normal or 2, and Auto or 3) manually select inputs 1 through 3 and enable different operating modes. The LEDs light to indicate the active input and provide feedback.
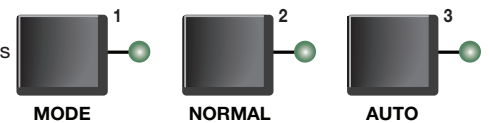
Input selection

Press the input selection button that corresponds with the desired rear panel input connector to activate that input signal.

Auto switch mode

Press and hold (for about 3 seconds) input buttons 1 and 3 simultaneously until the Auto Switch LED lights to indicate that auto switch mode is enabled. This prioritizes the highest numbered input receiving a video signal.

> **NOTE:** To set auto switch mode to prioritize the lowest numbered active input, use SIS commands (see the *XTP T USW 103 User Guide*).

Normal switch mode

Press and hold (for about 8 seconds) inputs 1 and 2 simultaneously until the Auto Switch LED turns off to indicate that auto switch mode is disabled.

Executive mode

Press and hold (for about 5 seconds) inputs 1, 2, and 3 simultaneously until all front panel LEDs blink three times to enable or disable the front panel lockout feature. When enabled, front panel input selection is disabled (contact closure and RS-232 control are still enabled).

Remote Configuration and Control

The XTP T USW 103 can be controlled through the Extron XTP System Configuration Software (recommended), SIS commands, remote RS-232, or a contact closure device (see **Installation** for connection details).

Install the XTP System Configuration Software on a computer running a Microsoft Windows® operating system. The control program can be installed from the *Extron Software Products* DVD or downloaded from the Extron website, **www.extron.com** (see the *XTP T USW 103 User Guide* for more details).

Indicators

Auto Switch LED — Lights when the device is in auto switch mode.

Input selection LEDs — Light to signify status or give feedback of the currently selected input (see **Input Selection Buttons** above).

Signal Status LEDs — Light when an input signal is detected on the corresponding input.

HDCP LEDs — Light when an input signal is HDCP compliant. Input 1 has no HDCP capabilities.

Audio Signal Clip LED — Lights red when the analog audio input signal remains above -3 dBFS. It remains lit for 200 ms after the signal falls below -3 dBFS.

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